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Independent System Operator

Updates on NYISO's Comprehensive System Planning Process

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Interregional Planning Stakeholder Advisory Committee (IPSAC) Meeting

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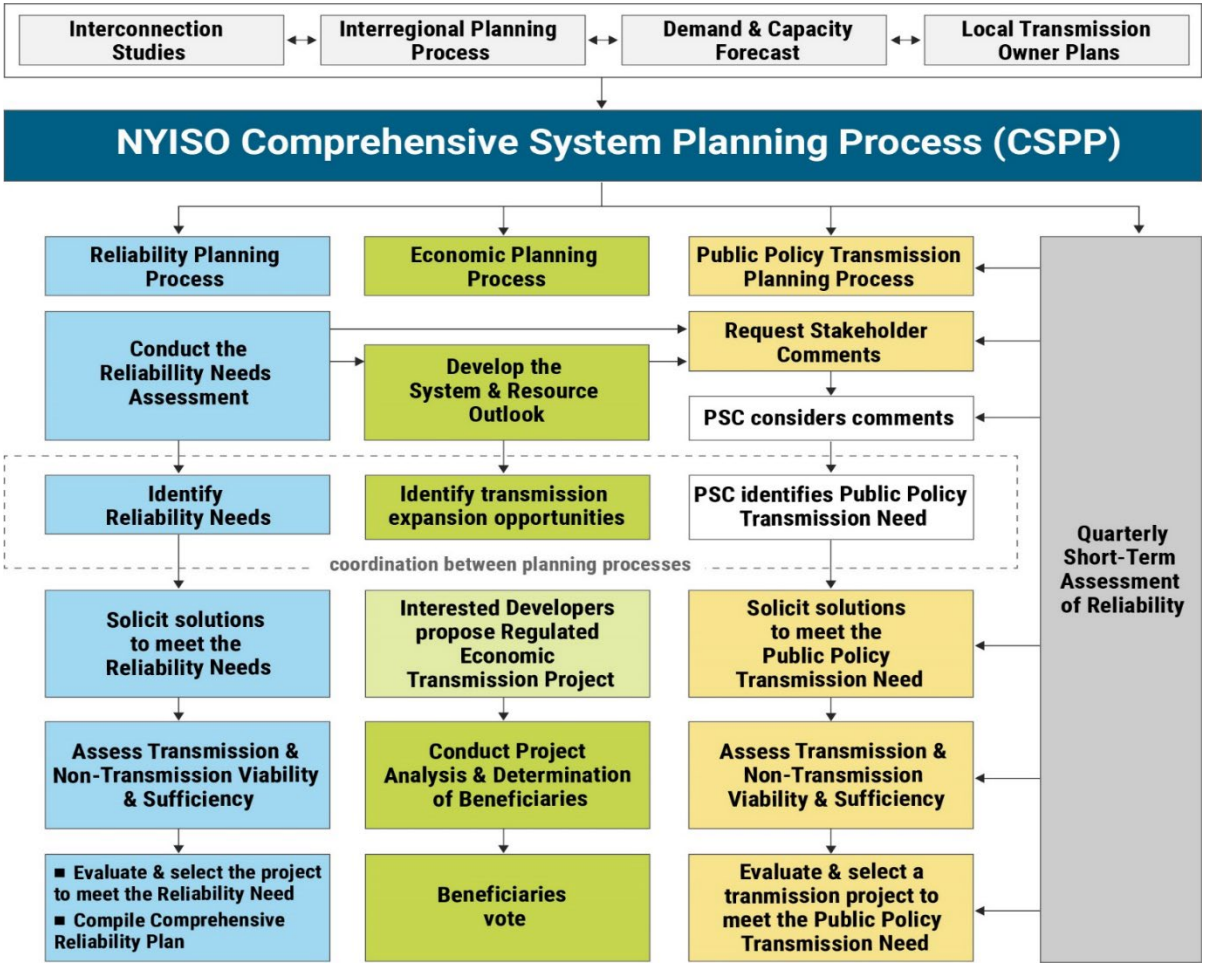

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Reliability Planning Process (RPP)

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Reliability Planning Process

- **Two-year process starting in even years**
- **Reliability Needs Assessment (RNA)**
  - Evaluates the adequacy and security of the Bulk Power Transmission Facilities (BPTF) over a seven-year Study Period (years four through ten of the next ten years), and identifies Reliability Needs
  - Reliability Needs are defined as violations of Reliability Criteria (*i.e.,* NERC, NPCC and NYSRC) on the BPTFs
  - Identifies risks to the plan, and includes scenarios simulated for informing the risks
- **Comprehensive Reliability Plan (CRP)**
  - Develops a plan to satisfy the Reliability Needs identified in RNA, if any
  - Identifies risks to the plan, and could include additional scenarios simulated for informing the risks

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2024 Reliability Needs Assessment

- 2024 RNA is based on the information from the Gold Book 2024, the 2024 FERC 715 filing (power flow cases and auxiliary files), historical data, market participant data and inclusion rules application
- Reliability evaluations on the 2024 RNA Base Case: transmission security and resource adequacy

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2024 Reliability Needs Assessment

- **Key Findings**
  - The RNA identifies a violation of reliability criteria in New York City in 2033, driven by a combination of factors, including the required deactivation of the New York Power Authority's natural gas plants in New York City and Long Island. According to the findings of the RNA, the reliability need is 17 MW in summer 2033 and increases to 97 MW in summer 2034
  - One of the most significant factors driving the reliability need and risks identified in the RNA is the increase in winter peak system demand.
  - RNA finds that the planned New York grid will meet the statewide resource adequacy criterion throughout the ten-year horizon for the base case assumptions. Although a violation is not identified, the loss of load expectation approaches the 0.1 event-days per year criterion in 2034, indicating that no surplus power would remain in ten years without further resource development.
- **Study summary can be found here and the full report can be found here**

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2025-2034 Comprehensive Reliability Plan

- **CRP will develop a plan to satisfy the New York City Reliability Need:**
  - NYISO will request updates to the status of proposed projects, such as Local Transmission Owner Plans, proposed generation and transmission additions, development of discrete large loads, demand response, and other status updates relevant to reducing, or eliminating, the Reliability Need.
  - If the Reliability Need remains, the NYISO will solicit solutions and assess the completeness, viability, and sufficiency of each of the solutions, and determine if the NYISO needs to evaluate and select the more efficient and cost-effective transmission solution(s) to satisfy the need.
- **CRP will further explore the grid trend uncertainness highlighted in the 2024 RNA, including:**
  - Large load development
  - Winter peaking and gas shortage risks
  - Resource additions and retirements

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Short-Term Reliability Process (STRP)

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Short-Term Reliability Process (STRP)

- The STRP uses quarterly Short-Term Assessments of Reliability (STAR) studies to assess the reliability impacts of generator deactivations on both BPTF and non-BPTF transmission facilities, in coordination with the responsible transmission owner(s)
- The STAR is also used by the NYISO, in coordination with the responsible transmission owner(s), to assess the reliability impacts of other system changes on the BPTF
- Each STAR assesses a five-year period with a particular focus on needs that are expected to arise in the first three years of the study period
  - Needs that arise in years four or five may be addressed in the STRP or RPP
- Short-Term Reliability Process webpage:
  https://www.nyiso.com/short-term-reliability-process

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Short-Term Reliability Process (STRP)

- **2023 Quarter 2 STAR**
  - The assessment found a reliability need beginning in summer 2025 within New York City. The New York City zone is deficient by as much as 446 MW for a duration of nine hours on the peak day during expected weather conditions
  - The report is available here
- **NYISO solicited for solutions to the reliability Need in August 2023**
  - No viable and sufficient solutions were received.
  - NYISO determined it is necessary to extend the operation of the Narrows and Gowanus “peaker” units. These units were previously scheduled to be deactivated by 2025 according to the Department or Environmental Conservation’s “Peaker Rule” limiting NOx and SOx emissions
  - Short Term Reliability Process Report is available at here

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Short-Term Reliability Process (STRP)

- **2025 Quarter 1 STAR**
  - The assessment did not identify any new Short-Term Reliability Needs, other than the New York City reliability need previously identified in the 2023 Quarter 2 STAR.
  - The report is available here
- **The 2025 Q2 STAR commenced on April 15, 2025**
  - Study Assumptions will be discussed with stakeholders in early May

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Generator Status Update

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Generator Status Update

Generator Status Updates from March 15, 2024 through April 1, 2025

Generating Unit	Owner	PTID	Interconnecting TO	Zone	Current Generator Status	Date of Generator Status Change, if applicable	Initial Testing Date, if applicable	Generator Deactivation Assessment/Short-Term Assessment of Reliability Start Date, if applicable	Generator Deactivation Assessment/Short-Term Assessment of Reliability Completion Date, if applicable	PSC Retirement/Mothball Notice Date, if applicable	Proposed Retirement/ Mothball Date, if applicable	Rescinded Notice Date, if applicable	Notes
SOUTH CAIRO___GT	Central Hudson Gas & Electric Corp.	23612	Central Hudson	G	Retired	03/31/2024		10/15/2023	01/12/2024	06/21/2023	03/31/2024		
WESTERN_NY_WIND	Western New York Wind Corp.	24143	National Grid	B	Retired	10/15/2023		07/15/2023	10/13/2023	06/05/2023	05/01/2023		Gold Book Correction: The actual retirement date for Western NY Wind was October 15th 2023.
EAST_POINT___SOLAR	NextEra Energy Marketing, LLC	323840	National Grid	F	In Service	04/25/2024	04/25/2024						
Astoria GT 1	Astoria Generating Company, L.P.	23523	Con Edison	J	In Service			07/15/2024	10/11/2024	01/28/2025	05/01/2025		
HIGH_RIVER___SOLAR	NextEra Energy Marketing, LLC	323847	National Grid	F	In Service	07/03/2024	07/03/2024						
MORRIS_RIDGE___SOLAR	Galt Power Inc.	323848	NYSEG	C	In Service	09/19/2024	09/19/2024						
Shoreham 2	Long Island Power Authority	23716	LIPA	K	In Service			01/15/2025			05/01/2025		
PGE_MADISON WINDPWR	Madison Windpower, LLC	24146	NYSEG	E	In Service			01/15/2025			05/01/2025		
WARRENSBURG___	Boralex Hydro Operations Inc.	23737	National Grid	F	Load Modifier	03/01/2025							
Gowanus 3-6	Astoria Generating Company, L.P.	24127	Con Edison	J	ICAP Ineligible Forced Outage	04/01/2025		04/15/2025					

Status of generators is reviewed and updated on a monthly basis:
https://www.nyiso.com/ny-power-system-information-outlook?folderPath=public/planning/NY-Power-System-Information-and-Outlook/Generator-Status-Updates

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Local Transmission Owner Plans (LTP)

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Local Transmission Owner Plans (LTP)

- The NYISO's Comprehensive System Planning Process (CSPP) begins with the Local Transmission Owner Planning Process (LTPP). The LTPP allows interested parties to examine the transmission system plans of each of the New York Transmission Owners individually.
- Local Transmission Owner Planning Process (LTPP) link:
  - https://www.nyiso.com/documents/20142/3632262/Local-Transmission-Owner-Planning-Process-LTPP.pdf
- 2024 Load and Capacity Data Report (Gold Book) containing BPTF LTPs and firm non-BPTF LTPs (Section VII)
  - 2024 Gold Book

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Economic Planning Process (EPP)

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Economic Planning Process

- **System & Resource Outlook (“The Outlook”)**
  - Performed in alternate years to the RNA
  - 20-year study of system and congestion
  - Identifies, ranks, and groups congested elements
  - Assesses the potential benefits of addressing the identified congestion
  - Provides information to developers and marketplace regarding future challenges in the New York power system
- **Economic Transmission Project Evaluation (ETPE)**
  - Evaluation by the ISO of a Regulated Economic Transmission Project (RETP)
    - Transmission projects seeking regulated cost recovery under NYISO Tariff
    - Eligibility threshold: Cost over $25M, benefit/cost ratio over 1.0, load payment savings over cost, 80% beneficiary vote
- **Requested Economic Planning Study (REPS)**
  - Study performed solely for informational purposes by the ISO at the request of a stakeholder or other interested party at their expense
    - Assumptions and scenarios customizable
    - Confidential except for posting of limited information about the study request

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Uses for System & Resource Outlook

- Identify potential challenges to meeting the New York State CLCPA targets
- Inform stakeholders and policy makers where future public policy needs may exist
- Define renewable generation pockets
- Prepare system models to perform Economic Transmission Project Evaluation and/or Requested Economic Planning Studies
- Provide information for New York Coordinated Grid Planning Process (CGPP)

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System & Resource Outlook Scope

Model Development

Benchmark

Assumptions

Reference Cases

Sensitivities

Congestion Assessment

Historic & Future Transmission Congestion

Congestion Relief Analysis

Analyses

Resources to Meet Policy Objectives

Renewable Pockets & Energy Deliverability

Renewable Generation Profiles

Future Resource Attributes

Report, Appendix, Data Catalog, & Fact Sheet

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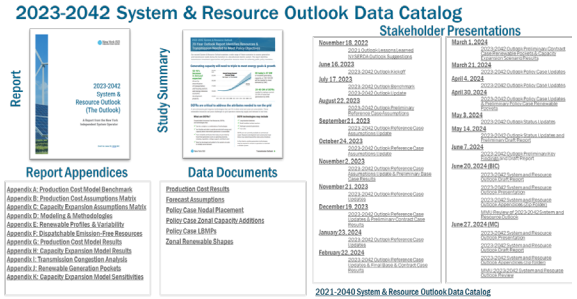
2023-2042 System & Resource Outlook



- **Study began in June 2023 and completed July 2024**
- **Key assumptions:**
  - The 2023-2042 System & Resource Outlook evaluated multiple reference cases with varying inclusion rules for the transmission and generation mixes to assess different scenarios for the 20-year study horizon
  - Multiple peak load and energy forecasts evaluated
  - Inclusion of transmission upgrades beyond existing system (NYPA Northern New York Priority Transmission Project, Champlain Hudson Power Express, Clean Path New York, Joint Utilities Phase 1 & Phase 2 projects, Long Island OSW Public Policy Project)
  - Generation fleet for scenario analyses, including optimized generation expansion of renewables, battery storage, and dispatchable emission free resources in scenario analyses for potential pathways to achieve energy policy targets
  - NYISO, ISO-NE, IESO, and PJM models included based on collaboration between ISOs

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2023-2042 System & Resource Outlook

- **Key Findings: Demand**
  - Electric energy consumption is projected to increase significantly in response to the economic development and decarbonization energy policies. The resources and transmission system necessary to meet the changing energy demand needs to evolve accordingly.
  - Siting large loads in electrical proximity to renewable resources, or siting resources near large loads, may benefit both the loads and the resources, particularly if located upstream of known constraints.
- **Key Findings: Supply Resources**
  - Dispatchable emission-free resources must be developed to provide the capacity, energy, and other essential grid services required to achieve the policy mandate for a zero-emissions grid by 2040.
  - New York will require three times the capacity of the current New York generation fleet to meet projected future electricity demands.
  - The coordination of new generator additions and existing generator retirements is essential to maintain the reliability of the New York power system while simultaneously pursuing achievement of CLCPA.
  - Uncertainty in siting new renewable generation could lead to delays in or inefficient expansion of the transmission and distribution systems.

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2023-2042 System & Resource Outlook

- **Key Findings: Transmission**
  - Historic levels of investment in the transmission system are happening but more will be needed.
  - Actionable expansion opportunities: Additional dynamic reactive power support must be added to the grid in upstate New York to alleviate congestion and fully utilize the transmission capability of the Central East interface.
  - Opportunities for further transmission investment in Western and Northern New York should be monitored as resources are developed in those regions.
  - Planning energy exchange with neighboring systems is becoming more complex and will be increasingly so in the future as each system transitions to more decarbonized systems.
- **Study Summary can be found here and full report can be found here**
- **2025-2044 System & Resource Outlook to kickoff in 2025**

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Public Policy Transmission Planning Process (PPTPP)

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Public Policy Transmission Planning Process (PPTPP)

- **Two-year process performed in parallel with RNA/CRP**
- **Phase I: Identify Needs and Assess Solutions**
  - NYISO solicits transmission needs driven by Public Policy Requirements
    - 2024 needs posted at https://www.nyiso.com/cspp -> Public Policy Documents -> Proposed Needs
  - PSC identifies transmission needs and defines additional evaluation criteria
  - NYISO holds Technical Conference and solicits solutions (transmission, generation, or EE/DR)
  - NYISO performs Viability and Sufficiency Assessment (VSA)
- **Phase II: Transmission Evaluation and Selection**
  - NYISO staff evaluates viable and sufficient transmission solutions and recommends the more efficient or cost-effective solution
  - Stakeholder review and advisory votes at BIC and MC
  - NYISO Board may select a transmission solution for purposes of cost allocation and recovery under the NYISO Tariff

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2024-2025 Public Policy Process Cycle

- On August 31, 2024, the NYISO requested potential transmission needs driven by Public Policy Requirements from interested parties
- On November 14, 2024, the NYISO filed the proposed transmission needs with the PSC from 17 entities, as well as applicable proposed needs with LIPA

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2022-2023 Public Policy Process Cycle

- On August 31, 2022, the NYISO requested potential transmission needs driven by Public Policy Requirements from interested parties
- On November 7, 2022, the NYISO filed the proposed transmission needs with the PSC from 17 entities, as well as applicable proposed needs with LIPA
- On June 22, 2023, the PSC issued an order declaring a Public Policy Transmission Need ("PSC Order"):
  - https://www.nyiso.com/documents/20142/1406395/PSC-Order-NYC-PPTN.pdf
- NYISO Solicitation : NYC PPTN Solicitation

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NYC PPTN PSC Order Highlights

- **"The CLCPA … constitutes a Public Policy Requirement driving the need for additional transmission facilities to deliver the output of offshore wind generating resources to New York City interconnection points"**
- **Solutions to the transmission need must, among other things:**
  - Consist of a complete end-to-end proposal comprised of both offshore and onshore components to enable power injection into Zone J
  - Contain a plan to complete all permitting and construction activities necessary to achieve an in-service date no later than January 1, 2033
  - Contain a plan for how offshore wind generation would interconnect to the end-to-end transmission proposal at the offshore interconnection points

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NYC PPTN PSC Order Highlights, cnt.

- **Complete end-to-end solutions must be comprised of both offshore and onshore components to enable power injection into Zone J and should include the following components:**
  - offshore interconnection point(s),
  - offshore transmission (i.e., submarine cables),
  - sites for cable landing points,
  - onshore transmission path(s) (i.e., terrestrial cables) from cable landing points to points of interconnection in Zone J, including sites for converter stations, and
  - necessary improvements to and/or expansion of the existing onshore transmission system.

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NYC PPTN PSC Order Highlights, cnt.

- **The PSC Order prescribes certain evaluation criteria for the NYISO's evaluation under Section 31.4.8.1.9 of the OATT:**
  - Minimization, to the extent possible, of the use of AC submarine cables in constrained areas identified in NYSERDA's 2022 offshore wind solicitation
  - Consideration of potential interference and/or synergy with the Long Island Offshore Wind Export Public Policy Transmission Need ("Long Island PPTN")
  - Demonstration that proposed solution will not preclude or foreclose the ability to expand and/or integrate into a future offshore transmission network
  - Optimization of intended corridors to achieve the intended level of offshore wind integration and account for the findings of NYSERDA's Cable Corridor Assessment
- **"Appendix B: Supplemental Criteria" contains additional criteria that leverages NYSERDA Cable Corridor Assessment for routing considerations and principles**

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PSC Order Highlights , cnt.

- **The NYC PPTN calls for proposed solutions that must accommodate the full output of at least 4,770 MW of incremental offshore wind**
  - The Order notes that scenarios representing up to 8,000 MW of incremental offshore wind should be used by NYISO to evaluate performance of proposes solutions for expandability, renewable energy deliverability, and other metrics in evaluation phase
  - The Order also notes that offshore wind injections are incremental to the 2,046 MW of offshore wind generation interconnecting into Zone J with existing OREC contracts resulting from NYSERDA's first and second offshore wind solicitations
- **"Appendix A: Technical Requirements" of the PSC Order contains technical details that will be used in defining the viability & sufficiency criteria and evaluation criteria**

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Involvement of State Agencies and Con Edison

- **The Order directs DPS staff to:**
  - Work with the state, federal, and local authorities with jurisdiction over aspects of the siting and construction of transmission in New York City to assist proposers and the NYISO on questions of permitting risk
  - To create opportunities to inform stakeholders of progress and gather stakeholder input
- **The Order requires Con Edison to undertake a process to make information available to potential Developers concerning points of interconnection on its system**

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New York Offshore Wind Update

- 28 projects were proposed by four Developers
- The NYISO filed the Viability and Sufficiency Assessment report with NYPSC on October 30,2024. All 20 projects were found to be Viable and Sufficient.
- NYISO has commenced its study process for evaluating and selecting a more efficient and cost-effective solution to the Need. Draft report to be issued for stakeholder review by Q3 of 2025

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Long Island Offshore Wind Export Update

- NYISO board selected Alternate Solution 5 Project to meet the Need. The project will be developed by the New York Power Authority and New York Transco – a partnership called Propel NY
- Full report and appendices can be found on the NYISO website
- Facility Studies has been commenced for the Alternate Solution 5 Project selected by NYISO Board to meet the LI PPTN

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Interregional Coordination

- **Through the NYISO's Transmission Interconnection Procedures, the NYISO also coordinates with neighboring regions to identify the impact, if any, of the Public Policy Transmission Projects on the neighboring regions**
  - Facility Studies have been completed for the selected Western NY and AC Transmission projects, including identification of the upgrades to address New York-New England transfer degradation caused by Segment B project

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Stakeholder Material

- The NYISO Comprehensive System Planning Process is regularly discussed at the Electric System Planning Working Group (ESPWG) and Transmission Planning Advisory Subcommittee (TPAS).
  - https://www.nyiso.com/espwg
  - https://www.nyiso.com/tpas
- Study documentation is available at:
  - https://www.nyiso.com/cspp

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Questions?

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Our Mission & Vision

Mission

Ensure power system reliability and competitive markets for New York in a clean energy future

Vision

Working together with stakeholders to build the cleanest, most reliable electric system in the nation

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